that can at present be drawn between the chemistry of dead matter and that of living matter.

It is clear that the acceptance of Lillie's suggestion would commit us to a type of biology that might, perhaps, be called materialistic, but certainly not mechanistic in any of the various senses of that word.

An Attempt to Explain Morphogenesis in Chemical Terms

In 1927 R. Goldschmidt published his physiological theory- of inheritance, w[r]hich seems to stand as the one serious attempt to think out the possibilities postulated by geneticists when they tell us that the genes are bodies each of specific chemical constitution, and that they mainly determine (given, of course, a normal environment) the course of development by way of long series of chemical reactions upon one another and upon the cytoplasm of the various cells occupying various spatial relations to one another and to the environment. For the prevailing doctrine of the genes seems inevitably to imply some such purely chemical theory of heredity, organization, and morphogenesis. Here, in passing, I point out to the reader that these three words stand for one problem, not three; a fact not sufficiently recognized by all writers. It is not uncommon to find a passage which dwells upon the marvel of the fact that a minute speck of protoplasm, showing no distinct features beyond the presence of a nucleus, should develop into a complex organization of many tissues all working together harmoniously. But this is only half, and the lesser

half, of the marvel; the other half or aspect being that the process repeats the history of the race (though with some distortions and omissions), and reproduces not merely harmoniously working organs, but organs which,